WHAT IS CLAIMED IS:

1. An inductance element, comprising:

a core provided with a multilayer body, which has plural magnetic alloy thin ribbons stacked in a non-adhered state, and an insulating coating layer which is formed of an insulator disposed to cover at least a part of the peripheral surface of the multilayer body in a non-adhered state and has flexibility; and

a coil disposed around the core.

2. The inductance element according to claim 1,

wherein the magnetic alloy thin ribbons have surface roughness with surface roughness Rf in a range of 0.08 to 0.45.

3. The inductance element according to claim 1,

wherein the multilayer body is disposed within the insulating coating layer so that a space factor of the multilayer body to the inside space of the insulating coating layer is 90% or less.

4. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked with a flexible insulating adhesive layer therebetween; and

a coil disposed around the core.

5. The inductance element according to claim 4,

wherein the multilayer body is disposed within the insulating coating layer so that a space factor of the multilayer body to the inside space of the insulating coating layer is 90% or less.

6. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked with a cold-formed insulating

interlayer therebetween; and

a coil disposed around the core.

7. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked; and

a coil disposed around the core,

wherein the multilayer body has a first magnetic alloy thin ribbon with a positive temperature dependency of inductance and a second magnetic alloy thin ribbon with a negative temperature dependency of inductance.

8. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked; and

a coil disposed around the core,

wherein $a \leq b-2$ [mm] is satisfied when it is determined that a length of the coil in its longitudinal direction is a [mm], and a length of the core corresponding to the longitudinal direction of the coil is b [mm].

9. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked with an insulating interlayer therebetween; and

a coil disposed around the core,

wherein the magnetic alloy thin ribbons have ends in the width direction positioned on the inward side of the ends of the insulating interlayer.

10. An inductance element, comprising:

a core provided with a multilayer body which has plural

magnetic alloy thin ribbons stacked and magnetic alloy thin ribbons for ends which are disposed at both ends of the multilayer body to magnetically couple with the magnetic alloy thin ribbons; and

a coil disposed around the core.

11. An inductance element, comprising:

a solenoid shaped air core coil having a winding wire fixed by adhering; and

a core which is provided with T-shaped magnetic alloy thin ribbons inserted into the air core coil from its both ends.

12. An inductance element, comprising:

a core provided with a multilayer body of magnetic alloy thin ribbons to which induced magnetic anisotropy is provided in a longitudinal direction; and

a coil disposed around the core,

wherein it is used in a frequency range of 200 kHz or less.

13. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked; and

a coil disposed around the core,

wherein the magnetic alloy thin ribbons are provided with induced magnetic anisotropy in a range of 70 to 85° with respect to their longitudinal directions.

14. An inductance element, comprising:

a core provided with a multilayer body which has plural magnetic alloy thin ribbons stacked; and

a coil disposed around the core,

wherein the magnetic alloy thin ribbons are determined to have a magnetic domain width m of 0.106 mm or less with respect

to their longitudinal directions.

15. The inductance element according to claim 14, wherein the magnetic domain width m and a width w of the magnetic alloy thin ribbons satisfies a relationship of $m \leq 0.106 \times (w/0.8)$ [mm].

16. A method for manufacturing an inductance element, comprising:

performing a heat treatment of wide magnetic alloy thin ribbons having a width larger than a desired core shape in a magnetic field to provide the wide magnetic alloy thin ribbons with magnetic anisotropy in the width direction;

performing an insulating treatment on the surfaces of the wide magnetic alloy thin ribbons provided with the magnetic anisotropy;

fabricating the wide magnetic alloy thin ribbons which are through the insulating treatment into a desired core shape and stacking to manufacture a core comprising a multilayer body of the magnetic alloy thin ribbons having the desired shape; and

disposing a conductor around the core to form a coil.